

SENATE COMMERCE COMMITTEE
SUBCOMMITTEE ON SCIENCE, TECHNOLOGY AND SPACE
HEARING ON THE COMMERCIAL SPACE LAUNCH INDUSTRY

STATEMENT FOR THE RECORD

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May 20, 1999

Mr. Chairman, I want to thank you for convening this hearing on the commercial space launch industry. Events of the last nine months have demonstrated time and again that the vital American launch industry has some serious problems to confront. The decline of the market share for U.S. launchers coupled with the recent spate of catastrophic failures pose serious economic and national security risks. We as a nation and as a Congress must decide, are we satisfied with the status quo or is it time to move ahead?

The potential benefits of access to space are myriad. From a national security standpoint we rely heavily on satellite technology. Recent failures involving launches and specific concerns about sensitive technology transfer because of U.S. payloads being launched by foreign spacelift providers, prompted a review by the Senate Select Committee on Intelligence. Among the committee's recommendations is "that Congress and the Administration work together to stimulate and encourage expansion of U.S. commercial launch capability." This was reiterated by President Clinton yesterday when in asking the Secretary of Defense to prepare a report on launch failures, he said, "As we enter the 21st Century, reliable access to space will be more important than ever in accomplishing our national goals."

From an economic perspective, facilitating access to space holds the promise of stimulating new technologies and innovative uses for old that may surpass the breakthroughs of the 20th Century. Last week in this subcommittee's hearing on emerging technology, we heard about an example of cutting edge, space-based biological research conducted by a Louisiana university researcher that has revolutionized cell biology and yielded a dramatic new, inexpensive but highly effective diagnostic technology for glaucoma. Other medical and technological breakthroughs will follow when access to space is both inexpensive and readily available.

Space-based research and commercial development will be essential as we confront probably the single greatest technological challenge of the next century: maintaining the quality of life for 78 million Americans - the aging Baby Boomer Generation which will begin to retire and face the health risks and challenges of old age soon after the turn of the millennium. Because of good health care, better nutrition and a generally higher quality of life, we already have 11 times more Americans over age 65 in 1999 than we

had in 1900. The Baby Boomers promise to dwarf those numbers by orders of magnitude. Space holds the promise to help alleviate some of the aging Boomer's concerns but the research and commercial development of new technologies and products is hampered by both the cost of access and availability of launch capacity.

There is clear agreement that the cost of access to space is too high. Today the cost of a payload can range anywhere from \$5000 to \$10,000 per pound. At those prices, if gold ingots were floating around in low earth orbit and all you had to do was go up there and scoop them up then return to earth, you could not make money. Even, if you doubled the price of gold, you could not make money.

Current launch services are not only expensive, but raise questions of reliability. The Commerce Committee will hold a hearing on launch failures next month but it is useful to note what happened in the spacelift field last year. In 1998, U.S. commercial space launch providers generated \$922 million in revenue but sustained \$248 million in losses due to catastrophic failures. Losses thus account for 27% of the commercial launchers' total revenue. The situation is even grimmer when you look at the federal government's record. In 1998, the U.S. Government reportedly spent \$1.48 billion on spacelift using expendable launch vehicles (ELV). However, the government also reportedly sustained \$1.36 billion in related losses, or 92% of the expenditures. Clearly, both the commercial sector and the federal government could benefit from reduced cost and increased reliability of space transportation services.

American firms that offer or seek to offer launch services are competing on an uneven playing field. Foreign launch providers benefit from direct government subsidies or non-market economies that allow them to offer their services at prices far below their American competitors. As a result, we see that the American share of the commercial space launch market has gone from 100% 20 years ago to 47% today, as estimated by the FAA's Office of Commercial Space Transportation - although there are competing estimates that put the U.S. market share as much lower. There are, of course, perfectly valid business reasons why a company may want to go abroad for launch services. However, no American firm should ever have to turn to a foreign launch provider because of high cost, unreliability or the lack of capacity by U.S. spacelift companies.

The Commercial Space Transportation Cost Reduction Act OF 1999, S. 469, which I introduced along with Senators Burns and Baucus seeks to level the playing field for American firms. The message that we have heard from space transportation vehicle companies, large and small, is that the biggest hurdle they face is financing, particularly in the early stages. Commercial markets do not seem to understand new or innovative uses of existing technologies well enough to make investment capital available. There are many good ideas out there, some shown on this chart (attached), that are waiting simply to find the necessary funding to bring their plans to fruition. A loan guarantee program

can be the magnet to draw these ideas into the realm of commercial application.

S. 469 was not offered as a cure-all for the space transportation industry. Loan guarantees may be a part, certainly a key part, but still only a part of an overall solution. Indemnification, which we are also discussing today, is another element. Tax incentives offer another option. Continued direct government funding of some technology development will also be necessary. The essential point is to focus on the United States' historical record of achievement in assisting with the development and commercialization of technologies. We have successful models from trains to ships to airplanes of government helping the private sector through the birth pangs of new industries. S. 469 can be a midwife to the next generation of the commercial space transportation industry.